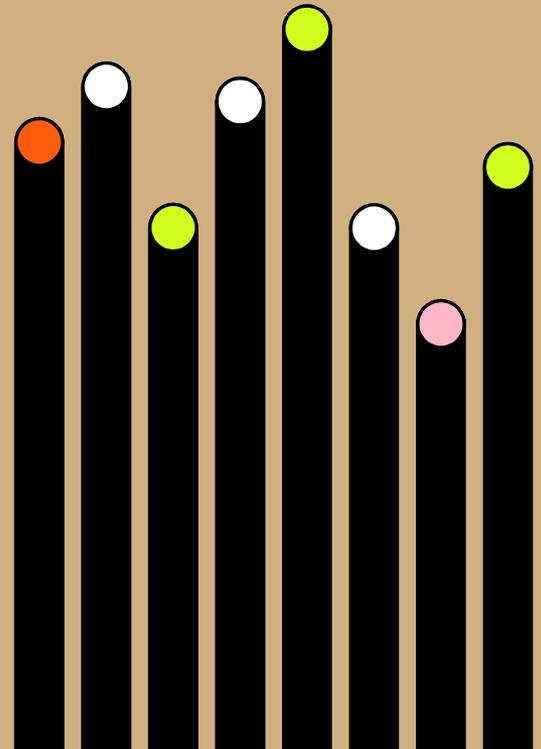


CAMUNDA
CON 2023

Improving patient experience and outcomes

Use of Workflow Orchestration to improve
healthcare

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Sonexus - Cardinal Health



Improving Healthcare with Camunda

CCON
2023

1

The trends and challenges in Healthcare and Healthcare IT today and in the future

2

Workflows essential to healthcare and how Camunda can be used to improve patient outcomes and reduce costs and TTM

3

Case Study: How Sonexus Cardinal Health used Camunda to build a modern, adaptable, scalable and extensible framework to accelerate digital transformation and automation, control costs and improve time to therapy and patient journey

Healthcare Industry Trends



Personalized Healthcare

- Move away from traditional Hub services
- Remote monitoring devices
- Self-Treatment and public medical data awareness



Value Based Care

- Payment related to patient outcomes
- Revenue risk across payers, providers and medtech



Digital Transformation

- Removal of manual processes
- Driving data based decisions
- End of 2023 worth \$61B



Impact of Policy

- CMS driving health care costs
- Access controls
- State and Industry Constant changes



Telemedicine & Virtual Healthcare

- Escalated through Covid
- Enhance healthcare outcomes and reduce cost



Cybersecurity

- Need to secure increasing patient data assets
- In 2020, number of healthcare related hacks increased 42% in North America

+ More patients, more uninsured or under-insured, Increasing costs, Provider payment pressure

Healthcare Technology Driven Trends



Automation

- Replace widespread manual processes
- Camunda and workflow orchestration drives this shift



Data Analytics

- More data, more insights
- Data driven healthcare decisions
- Challenge with data quality and structure



Artificial Intelligence

- Drive automation of manual processes
- Driving clinical and non-clinical decision making and prediction



IOT

- Wearable devices
- Extending Provider reach through home monitoring systems



One Stop Solutions replaces Best In Class

- Best in class drives complex integration
- Inter-operability problems emphasized
- Intergrated solutions with focus on patient and HCP



The FAX Machine

- Still heavily used
- Prevents full digitization and automation
- Digital enrollment needs to fully supercede

Technology benefits constrained by lack of common data structures, privacy concerns and data security, lack of easily accessible workflow processes and interoperability of healthcare systems

Healthcare Challenges

Policy &
Regulation

Healthcare
Trends

Big
Pharma
Branding
& Product

New
Technology

Industry
Challenges

HIPAA &
PHI

New
Therapies

Change
resistance

Privacy

Data
availability

External Factors

Internal Factors

Bottleneck
SME
knowledge &
ramp times

Reducing cost and TTM

Legacy
business
models

Legacy
complex
solutions

Workflow as
code

Legacy
culture

Requirements

Workflows in Healthcare

Workflows are used widely across healthcare, but are not optimized, automated or easy to evolve

Leading Workflow Automations

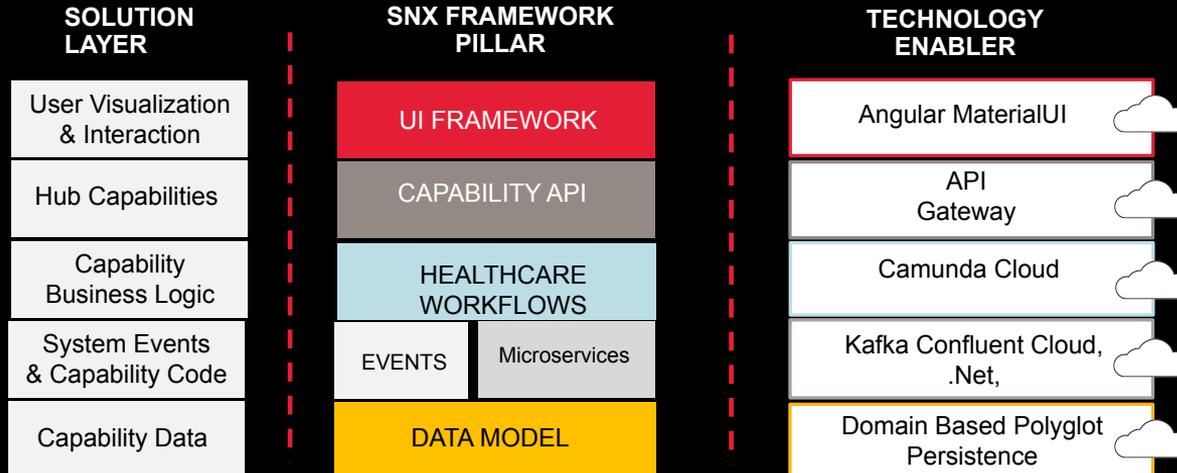
- Appointment scheduling
- Patient onboarding to treatments
- Patient admin & discharge
- Multi-channel patient communications
- Health record management
- Insurance claim processes
- Benefits Verification, Prior Authorization, consent and Income verification
- Prescription filing

Healthcare Workflow Issues

- Highly complex and changeable
- Involve many manual steps
- Workflows are distributed and hidden
 - More perception than actual
- Poor workflows negatively impact employees, patients, providers and costs
- Do not effectively drive digital processes and software
- Poor workflows can have severe consequences for patients and providers

Addressing the Healthcare Challenge

- Delivering better patient outcomes whilst reducing cost and time to therapy
- Ensure ease of customization and change. Emphasis on reusable components
- Remove impact of missing information
- Remove complexity and TTM impacts of legacy platforms and monolith software
- Improve communication and understanding between client, business, product and engineering
- Remove “I think it does ...” conversations. Provide clarity and transparency
- Automation: Limit manual intervention



Successful adoption of Camunda

Lessons learned on providing a successful adoption of workflow orchestration at Cardinal Health

Challenges

- Internal resistance to change
 - People need to think differently
 - Changes previous role definitions around requirements
- Legacy approaches to healthcare logic implementation
- It's a big problem to solve
- Every vendor claims they can automate operations

Approaches

- Start with a proof of concept in involving all related roles of the business
- Ensure solution architecture can be easily extended to support microservice orchestration
- Build a community of practice
- Plan for transition of existing logic
- Do not try to boil the ocean. Identify areas of value that are easy to execute. Get a win!
- Get workflows out there and iterate
- Functionally decompose workflows. Create a hierarchy.
 - Workflow Legos

Benefits of Camunda

Workflows are used widely across healthcare, but are not optimized, automated or easy to evolve

Primary Benefits of Camunda

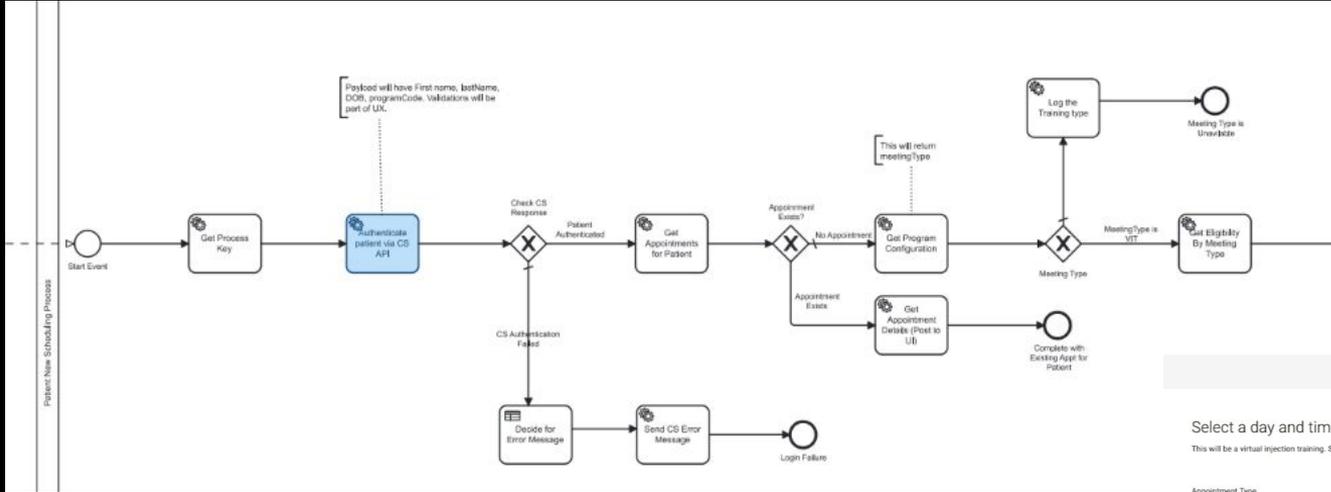
- Delivers on Architecture & Solution vision. Extensive reuse of assets
- Makes process customization and extension simple and low cost
- Automates healthcare processes
- Provides common understanding between client and vendor groups
- Improves solution TTM
- Improves customer retention
- Greater transparency in operations
- Documentation is executed

New Healthcare Workflows

- Appointment creation
- Appointment rescheduling
- Appointment cancellation
- Electronic Benefits Verification eBV
- Electronic Prior Authorization (ePA)
- Uninsured PAP Patient Journey
- Digital Enrollment
- Driving Chatbot operation for each workflow healthcare process

Example Workflow (Partial)

- Schedule creation workflow



[Uncover Safety Information](#) | [Medication Guide](#) | [Prescribing Information](#)

Select a day and time for your appointment

This will be a virtual injection training. Schedule it for the next business day after your expected delivery date of your medication.

Appointment Type: Injection Training

Appointment Preference: First Available

SEP 2023 < >

SEP 20, 2023 CT

8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM
2:00 PM	3:00 PM	4:00 PM			

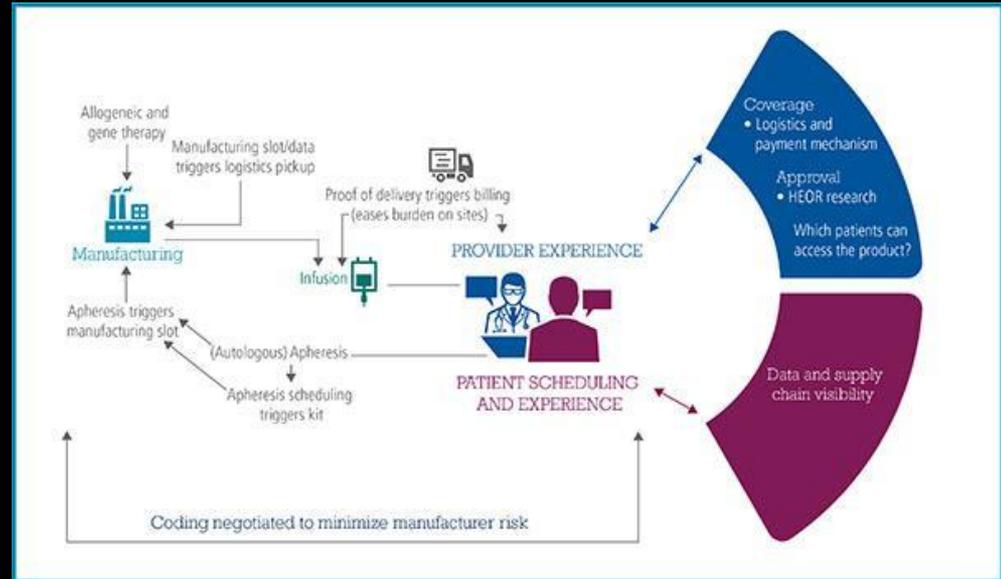
[Schedule](#)

Cell & Gene Therapy

Why healthcare process automation is the key?

Problem

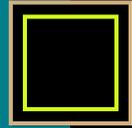
- Multiple systems across CGT treatment journey but nothing that connects across systems.
- People are connecting the dots across systems by manually entering the data, which is error prone and not scalable.
- Unique manufacturing process for different therapies
- Orchestration of various events is essential for manufacturers and providers to monitor each step in the CGT process and take necessary action when there is an exception.



Next Steps



- Build out the remaining workflows for the Hub – Drive healthcare automation



- Drive CGT solution rollout and manage complexity and tracking
- Investigate using Camunda to drive AI workflows
 - To digitize and collect data
 - To Transform and build model
 - Take AI results and drive healthcare process and decisions



- Expand a common model an approach across the business to drive better healthcare outcomes



- Expand Camunda to Cardinal Health internal operations



Questions & Answers

Thank you
for your
attention



3 Sample Questions

- What was the biggest challenge in introducing workflow orchestration (Camunda) into your organization?
- What new features would you like to see be released in Camunda?
- How does Camunda handle regulations such as HIPAA?